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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,935	01/30/2004	Karl J. Schaefer	BOEI-1-1252	8514

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EXAMINER

HOLZEN, STEPHEN A

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/768,935

Applicant(s)

SCHAEFER ET AL.

Examiner

Stephen A. Holzen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 6, 7 and 20-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-19, 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/30/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, species a and c in the reply filed on 12/23/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). The applicant in fact pointed out that the invention has utility in other combinations. The examiner agrees with applicant and therefore asserts that the restriction was proper. Applicant has not pointed out any errors made by the examiner in his holding of restriction between independent and distinct invention and therefore the election is being treated as being made without traverse.
2. Claims 1-27 are pending.
3. Claims 6, 7, 20-24 have been withdrawn.
4. Claims 1-5, 8-19, 25-27 have been examined.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1,25, 26 is rejected under 35 U.S.C. 102(b) as being anticipated by H. D. Sisk (2,998,948). Sisk discloses a cargo carrying aircraft having a tractor unit and a dolly unit (62), an elevating and lowering mechanism (68). The lifting mechanism is illustrated in Figures 6 and 8. Applicant should appreciate that less patentable weight is given to the (a) preamble (b) functional language.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5, 8-9, 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sisk (2,998,948) in view of Rasmussen (6,983,980).

Sisk does disclose a plurality of mounted pads configured to support the module (see Figure 4 and 16); the saddles are the outer exterior edges of the cargo pallet.

Sisk does not disclose a traditional hoisting apparatus (see #150 and #152 in Figure 15 for details of the saddle).

Rasmussen does however teach that it is well known in the art to employ more traditional hoisting mechanisms within a vehicle body. The figures show a perspective view of a system for vertically moving one or more beds using cables and a rack and gear lifting assembly. The motor assembly 36 provides rotational motion (e.g., rotating

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shaft, etc.), which is used to move the moving assemblies 50. The drive members 34 may be used to transmit the driving force provided by the motor assembly 36 to the moving assemblies 50. In this embodiment, the drive members 34 are rigid and transmit rotational motion from the motor assembly 36 to the moving assemblies 50. Examples of suitable rigid drive members may include metal, plastic, or composite, shafts, tubes, beams, rods, etc. In the embodiments shown in FIGS. 5-8, the transmissions 200 use a pair of bevel gears 254, 264 to translate the rotational motion 90 degrees between the drive shafts 150a, 150b and the drive member 34b. However, in other embodiments, the transmissions 200 may be used in any of a number of suitable configurations with an equally wide number of varying components to translate motion or driving force from one direction to another direction (e.g., transmission 200 includes a worm gear that meshes with a spur gear, etc.). Referring to FIG. 20, the transmission includes a first bevel gear 254 and a spacer 256. The first bevel gear 254 includes an axial hole 258, and the spacer 256 includes an axial hole 260. The axial hole 258 is sized to engage with the first end 212 of the drive shaft 150a so that the first bevel gear 254 and the drive shaft 150a move together. In FIGS. 28-31, the drive member 34b is coupled between the transmissions 200a, 200b using a spacer 314 and a biasing member 316. In this embodiment, the drive member 34b is made from a tubular material (e.g., cylindrical tube, square tube, etc.), which includes a channel 318 extending longitudinally therein. The drive member 34b may include a first end 320 and a second end 322 which are configured to drivably engage or cooperate with the drive shafts 226a, 226b, respectively. Referring to FIG. 131, a cut-away perspective

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view is shown of another embodiment of the lifting assembly 630a which may be used in the system 12 shown in FIGS. 127-128. In this embodiment, the flexible drive member 616a is a cable which forms an endless loop. The cable moves along an endless path defined by the endless loop. The cable is configured to wrap on a spool, drum, or cylinder 1040 coupled to the drive shaft 670a. In this embodiment, the spool 1040 rotates an axis, which is parallel to the sidewalls 16, 18 of the vehicle 10 and is parallel to the base 706 and the securing flanges 708, 710 of the guide member 618.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made to employ the lifting device of Rasmusen to lift and load the cargo modules of Sisk since overhead Hoists and overhead fork lifting assemblies are known for the use in the lifting art and the selection of any of these known equivalents would be within the level of ordinary skill in the art.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sisk in view of Traficant. Sisk does not disclose a truck having a telescoping frame member. Traficant discloses a hydraulic cylinder 55 is pivotally attached at 54 to the transverse member 18 and provides a telescoping ram or piston 55 having rollers 22 on its outer end for engagement against the underside of the bearing plate 24. The roller shaft 58 may extend outwardly to both sides and carry additional rollers (not shown). It would have been obvious to one having ordinary skill in the art to employ a telescoping frame

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truck for the purpose of decreasing the distance a hoist mechanism needs to pull cargo into an aircraft.

9. Claim 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sisk as rejected above and further in view of Smethers (3,520,502). Sisk does not disclose a plurality of cars. Figure 2 to Smethers discloses however that it is well known in the art to attach modules to upper rails. Smethers use the rails for bringing the modules further within the fuselage. It would have been obvious to one having ordinary skill in the art to employ the concept of Smethers in the device of Sisk for the purpose of increasing the amount of cargo that can be carried by a single aircraft.

As best understood Sisk in view of Rasmussen teach the limitations of claims 14.

The scope of this claim however is confusing.

10. Claim 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sisk as rejected above and further in view of ordinary skill in the art. None of the references teaches the use of a turnbuckle. However turnbuckles are a known metal coupling device threaded at both ends into which two rods are screwed in order to form a unit that can be adjusted for tension and length. A turnbuckle is used for adjusting the tension in ropes and rods. It would have been obvious then to use a turnbuckle for hoisting cargo modules since standard safety procedures require strapped down and secured cargo.

11. Claims 16- are rejected under 35 U.S.C. 103(a) as being unpatentable over Sisk (2,998,948) in view of Rasmussen (6,983,980) and further in view of Traficant and further in view of Smethers (3,520,502).

Sisk discloses a cargo carrying aircraft having a tractor unit and a dolly unit (62), an elevating and lowering mechanism (68). The lifting mechanism is illustrated in Figures 6 and 8. Applicant should appreciate that less patentable weight is given to the (a) preamble (b) functional language.

Sisk does disclose a plurality of mounted pads configured to support the module (see Figure 4 and 16); the saddles are the outer exterior edges of the cargo pallet. Sisk does not disclose a traditional hoisting apparatus (see #150 and #152 in Figure 15 for details of the saddle).

Rasmussen does however teach that it is well known in the art to employ more traditional hoisting mechanisms within a vehicle body. The figures show a perspective view of a system for vertically moving one or more beds using cables and a rack and gear lifting assembly. The motor assembly 36 provides rotational motion (e.g., rotating shaft, etc.), which is used to move the moving assemblies 50. The drive members 34 may be used to transmit the driving force provided by the motor assembly 36 to the moving assemblies 50. In this embodiment, the drive members 34 are rigid and transmit rotational motion from the motor assembly 36 to the moving assemblies 50. Examples of suitable rigid drive members may include metal, plastic, or composite, shafts, tubes, beams, rods, etc. In the embodiments shown in FIGS. 5-8, the

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transmissions 200 use a pair of bevel gears 254, 264 to translate the rotational motion 90 degrees between the drive shafts 150a, 150b and the drive member 34b. However, in other embodiments, the transmissions 200 may be used in any of a number of suitable configurations with an equally wide number of varying components to translate motion or driving force from one direction to another direction (e.g., transmission 200 includes a worm gear that meshes with a spur gear, etc.). Referring to FIG. 20, the transmission includes a first bevel gear 254 and a spacer 256. The first bevel gear 254 includes an axial hole 258, and the spacer 256 includes an axial hole 260. The axial hole 258 is sized to engage with the first end 212 of the drive shaft 150a so that the first bevel gear 254 and the drive shaft 150a move together. In FIGS. 28-31, the drive member 34b is coupled between the transmissions 200a, 200b using a spacer 314 and a biasing member 316. In this embodiment, the drive member 34b is made from a tubular material (e.g., cylindrical tube, square tube, etc.), which includes a channel 318 extending longitudinally therein. The drive member 34b may include a first end 320 and a second end 322 which are configured to drivably engage or cooperate with the drive shafts 226a, 226b, respectively. Referring to FIG. 131, a cut-away perspective view is shown of another embodiment of the lifting assembly 630a, which may be used in the system 12 shown in FIGS. 127-128. In this embodiment, the flexible drive member 616a is a cable, which forms an endless loop. The cable moves along an endless path defined by the endless loop. The cable is configured to wrap on a spool, drum, or cylinder 1040 coupled to the drive shaft 670a. In this embodiment, the spool

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1040 rotates an axis, which is parallel to the sidewalls 16, 18 of the vehicle 10 and is parallel to the base 706 and the securing flanges 708, 710 of the guide member 618.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made to employ the lifting device of Rasmusen to lift and load the cargo modules of Sisk since overhead Hoists and overhead fork lifting assemblies are known for the use in the lifting art and the selection of any of these known equivalents would be within the level of ordinary skill in the art.

Sisk does not disclose a truck having a telescoping frame member. Traficant discloses a hydraulic cylinder 55 is pivotally attached at 54 to the transverse member 18 and provides a telescoping ram or piston 55 having rollers 22 on its outer end for engagement against the underside of the bearing plate 24. The roller shaft 58 may extend outwardly to both sides and carry additional rollers (not shown). It would have been obvious to one having ordinary skill in the art to employ a telescoping frame truck for the purpose of decreasing the distance a hoist mechanism needs to pull cargo into an aircraft.

Sisk does not disclose a plurality of cars. Figure 2 to Smethers discloses however that it is well known in the art to attach modules to upper rails. Smethers use the rails for bringing the modules further within the fuselage. It would have been obvious to one having ordinary skill in the art to employ the concept of Smethers in the

device of Sisk for the purpose of increasing the amount of cargo that can be carried by a single aircraft.

None of the references teaches the use of a turnbuckle. However turnbuckles are a known metal coupling device threaded at both ends into which two rods are screwed in order to form a unit that can be adjusted for tension and length. A turnbuckle is used for adjusting the tension in ropes and rods. It would have been obvious then to use a turnbuckle for hoisting cargo modules since standard safety procedures require strapped down and secured cargo.

12. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sisk as applied above and further in view of O'Neill (3,419,164). Sisk does not disclose that the cargo can be used for holding passenger. O'Neill however teaches that it is well known in the art to load passenger modules outside the fuselage of the craft and then insert the module into the fuselage (see figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a module capable of being used by a crew.

Conclusion (Notes to Applicant)

- The examiner believes that the novelty of the present invention rests with the concept of installing overhead modules within an aircraft. The applicant has not specifically claimed this combination however. The applicant should appreciate that "overhead module" does not have any special definition in the art, and is

broad enough to encompass any module, capable of housing a person, that is also capable of being hoisted "overhead" (such as in a warehouse).

The examiner (who works mainly on aircraft systems and not lifting mechanism) believes that applicant's hoist system is nothing more than an obvious variation of most hoist system. Indeed wikipedia.org teaches that a "**hoist** is a device used for lifting or lowering a load by means of a drum or lift-wheel around which rope or chain wraps. It may be manually operated, electrically or pneumatically driven and may use chain, fiber or wire rope as its lifting medium." Since the examiner has minimal research experience with lifting mechanisms the examiner believes that should applicant continue to pursue the lifting mechanisms and not the aircraft / overhead passenger module lifting apparatus combination, the applicant should be prepared for substantially slower prosecution. If the applicant were to specifically claim the aircraft & lifting operation however the examiner believes that the application could be passed to issue relatively soon (if not next action, then on examiner's amendment). The applicant should note that the examiner has not specifically seen the aircraft/module/hoisting apparatus and would be willing to work with the applicant to achieve the broadest claims thereto.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A. Holzen whose telephone number is 571-272-6903. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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